

Disonycha arizonae Casey

Fig. 8

Some years ago Dr. E. C. Van Dyke sent me four specimens (three females and one male) of a *Disonycha* from the collection of the California Academy of Sciences, with the label Elmwood, Tenn., Fenyas Coll. At first sight it seemed to be something new, but the label reminded me of a series in the U. S. National Museum with the

same locality label that were typical specimens of *D. arizonae* Casey, and on comparison I found these four to be simply a dark color form of that species. This was corroborated by examination of the male genitalia. In all four specimens the elytra were deep reddish brown or piceous with a narrow pale margin, and in all four there was a faint trace of vittation at the apex, in the darkest specimen, only a tiny pale spot but in the others, showing very faintly, two pale vittae.

ZOOLOGY.—*Geographical distribution of the nemerteans of the northern coast of the Gulf of Mexico as compared with those of the southern coast of Florida, with descriptions of three new species.* WESLEY R. COE, Scripps Institution of Oceanography.¹ (Communicated by W. L. Schmitt.)

Up to the present time no published information has been available relative to the nemerteans of the areas covered by this report. Consequently it has been uncertain whether the nemertean fauna might be found to consist principally or wholly of species identical with those of the Atlantic coast or whether the more typically tropical or subtropical species would be included. Nor was it known whether any or many apparently endemic forms might be present.

Twenty-two species have now been identified. Sixteen of these are found on the northern coasts of the Gulf and six others in southern Florida. Only two specimens from the deeper, off-shore waters of the Gulf have been obtained by the writer. Both of these belong to either *Lincus* or *Micrura*, but the specimens were not sufficiently well preserved to allow specific analysis. No information is yet available for all that portion of the western Gulf coast south of the Mexican border, or for any locality on the west coast of the Florida peninsula between Franklin County and Key West.

The presumable explanation for the small number of species at present known is that only sporadic efforts have been made toward a complete survey of the littoral fauna of the Gulf. On the Atlantic coast of North America there are 53 known species of nemerteans and on the Pacific coast 95 species. Hence it seems probable that there are many more

species now actually living in the Gulf than can be included in this report.

Even on the Atlantic coast the nemerteans have been studied extensively only as far south as New Jersey, and our knowledge of the species living between that State and Florida is based on collections made at widely separated localities. It may therefore be assumed that some, perhaps many, additional species remain to be discovered there.

All except two of the species known from the northern part of the Gulf are also found on the Atlantic coast. Therefore, it seems probable that the nemertean fauna of the northern Gulf coast has in the past been a continuation of that of the Atlantic coast and that it is now a separate fauna that was isolated in Pleistocene times by the Florida Peninsula. To determine whether any of the populations of the two areas are at present continuous, it is essential to obtain additional collections on both sides of the southern half of that peninsula. It is already known that the species found at Pensacola, on the Gulf side, are similar to those found by the writer personally at St. Augustine, on the Atlantic side. The following lists, however, indicate that these two nemertean faunas are separated by an area in which other species predominate.

Because the nemerteans of the northern Gulf coast are generally of different species than those at present known from southern Florida, the species of the two areas will be listed separately.

¹ Contribution from the Scripps Institution of Oceanography, new series, no. 539.

I. GEOGRAPHICAL DISTRIBUTION OF SPECIES
AT PRESENT KNOWN FROM THE NORTHERN
COAST OF THE GULF OF MEXICO

[Abbreviations indicate: A, Atlantic coast of North America; E, coasts of Europe; G, Northern coast of the Gulf of Mexico; P, Pacific coast of North America; S, southern Florida; W, West Indies; X, at other localities.]

Order 1, PALEONEMERTEA

Family Tubulanidae

Tubulanus pellucidus (Coe), 1895. A, G, P.

Family Carinomidae

Carinoma tremaphoros Thompson, 1900. A, G.

Order 2, HETERONEMERTEA

Family Lineidae

Zygeupolia rubens (Coe), 1895. A, G, P.

Lineus socialis (Leidy), 1855. A, G.

Micrura leidyi (Verrill), 1892. A. G. S.

Cerebratulus lacteus (Leidy), 1851. A, G.

Order 3, HOPLOEMERTEA

Family Emplectonemertidae

Paranemertes biocellata Coe, 1944. G.

Family Carcinonemertidae

Carcinonemertes carcinophila (Kölliker), 1845. A, E. G.

Carcinonemertes carcinophila imminuta Humes, 1942. G, S, W.

Family Proserhochmididae

Oerstedia dorsalis (Abild.), 1806. A, E, G, P, X.

Family Amphiporidae

Zygonemertes virescens (Verrill), 1879. A, G, P.

Amphiporus cruentatus Verrill, 1879. A, G, P.

Amphiporus ochraceus (Verrill), 1873. A, G.

***Amphiporus texanus*, n. sp.**

This new species represents one of the larger and broader forms of this extensive genus. The type specimen was about 60 mm in length and 6 mm in width after preservation. The length of this specimen is therefore only 10 times the greatest width. The head is narrow, about 2 mm in width, with subterminal mouth and transverse or oblique lateral grooves. There are many small ocelli on each side of the head, although the exact number and arrangement could not be determined in this specimen.

The proboscis is large and extends nearly the entire length of the body. The central stylet is moderately slender and about two-thirds of the length of the relatively massive basis. The latter is nearly rectangular in outline, about four times as long as its diameter, tapering but slightly toward the anterior end and is truncated pos-

teriorly (Fig. 1). In this type specimen the basis measured 0.135 mm in length and from 0.027 to 0.035 in diameter. One of the two accessory pouches contained two well-formed stylets and the other had three, two of which were not yet completed. In this specimen there were 10 rather large proboscis nerves.

No record is available regarding the color in life, but the specimen preserved in formalin indicated a pale, reddish-brown epidermal pigmentation. The cerebral sense organs are comparatively larger than in most species of the genus. They are situated lateroventrally and a short distance anterior to the brain.

This specimen (U.S.N.M. no. 22965) was collected by B. Earp at Port Aransas, Tex. All the other species of nemerteans at present known from that locality are found also on the North Atlantic coast. Consequently it is uncertain whether this new species is limited to the Gulf of Mexico or whether it may occur also on the Atlantic coast, although it has not yet been found there.

Family Tetrastemmatidae

Tetrastemma candidum (Müller), 1774. A, E, G, P, X.

Tetrastemma vermiculus (Quatr.), 1846. A, E, G.

Order 4, BDELLONEMERTEA

Family Malacobdellidae

Malacobdella grossa (O. F. Müller), 1776. A, E, G, P.

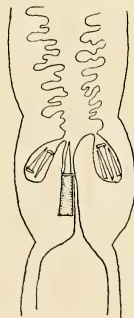


FIG. 1.—*Amphiporus texanus* n. sp.: Outline of stylet apparatus of proboscis.

II. SPECIES AT PRESENT KNOWN FROM
SOUTHERN FLORIDA

Order 1, PALEONEMERTEA

Tubulanus floridanus, n. sp.

In the collections from Biscayne Bay, Fla., was one specimen of *Tubulanus* that evidently represents a previously undescribed species. This specimen is very slender, about 40 mm in length and only 1 to 2 mm wide. The color in life is brown, with a series of about 30 very narrow rings of lighter color. Nearly all the rings completely encircle the body. Anteriorly the rings are separated by a distance about equal to the diameter of the body but more posteriorly they are generally more widely separated and irregularly spaced. The lateral sense organs can be distinguished externally but are not conspicuous.

Transverse sections show a rather thick outer epithelium, with a thin, but dense, basement layer and an unusually large median dorsal nerve. The cerebral sense organs are large and highly specialized, with a sensory canal leading laterally to the surface of the epithelium.

Individuals of this species have a superficial resemblance to those of *T. annulatus* (Montague), *T. capistratus* Coe, and *T. nothus* (Bürger) but are without longitudinal lines of contrasting color.

One individual of this species was collected by F. M. Bayer among algae on dock piling on the County Causeway at Miami, Biscayne Bay, Florida. U. S. Nat. Mus. Cat. No. 22251.

Order 2, HETERONEMERTEA

Family Lincidae

Lincus ater (Girard), 1851. S, W.

Lincus stigmatus n. sp.

The collections contained fragments of an undescribed species of this genus, but unfortunately the head was not among them. Nevertheless the markings on the body are so distinctive as to indicate that these fragments could not have belonged to any of the numerous described species. It seems necessary therefore to give as complete a diagnosis of a new species as is possible in the absence of the head.

The fragments have a maximum width of 5 mm, tapering to about 2 mm at the posterior end, indicating that the entire individual would have had a length of 150 mm or more.

The color in life was slaty brown on both dorsal and ventral surfaces, with paired transverse white

markings at intervals of 1 to 2 mm on the dorsal surface. Each narrow marking is about one-fifth the diameter of the body in length and the two members of each pair are separated from the margin and from each other by about the same distance (Fig. 2). The markings are limited to the dorsal surface and become irregular and indistinct toward the posterior end of the body. The colors are retained after preservation in alcohol.

Since the anterior end of the body was not obtained, nothing can now be said as to the presence of ocelli, the character of the cephalic grooves or other sense organs or the peculiarities of the nephridia. Transverse sections of the body show an unusually thick cutis with many spiral muscular fibers and a heavily pigmented layer externally.



FIG. 2.—*Lincus stigmatus* n. sp.: Outline of posterior portion of body, showing position of white markings. The markings appear to be irregularly spaced, owing to differences in state of contraction.

The paired markings in this species have a superficial resemblance to those of some individuals of *L. geniculatus* (D. Chiaje) in which the white rings are interrupted in the mid dorsal line but in the latter species the rings continue laterally and ventrally. There is also some resemblance to *L. albocinctus* Verrill, recorded from Bermuda and Puerto Rico, although in that species the transverse lines are continuous on the dorsal surface and the ventral surface of the body is whitish.

The species is at present known only from the fragments of one individual collected by G. S. Posner on the shore of Biscayne Bay, Fla. U.S.N.M. no. 22252.

Micrura leidy (Verrill), 1892. A, G, S.
Cerebratulus fuscus McIntosh, 1873. E, S, X.
Cerebratulus leucopsis (Coe), 1902. S, W.

Order 3, HOPLOMERTEA

Family Amphiporidae

Carcinonemertes carcinophila var. *imminuta*
Humes, 1942. G, S, W.

Family Drepanophoridae

Drepanophorus crassus (Quatr.), 1846. E, P, S,
W, X.

SUMMARY

The preceding lists show that many of the species have a remarkably wide geographical distribution already recorded and it may be expected that they will later be found elsewhere. Of the 16 species at present known from the northern Gulf coast, all except *Paranemertes biocellata* and *Amphiporus texanus* are widely distributed on the American Atlantic coast, and four of them, namely, *Tubulanus pellucidus*, *Zygeupolia rubens*, *Zygonemertes virescens*, and *Amphiporus cruciatatus*, occur also on the Pacific coast but not in Europe; two others, *Carcinonemertes carcinophila* and *Tetrastemma vermiculus*, are found on American Atlantic and European coasts but not in the Pacific; *Oerstedtia dorsalis* and *Tetrastemma candidum* are circum-polar, being distributed along both the east and west Atlantic and Pacific coasts; *Malacobdella grossa* occurs on both American coasts and in Europe; while the remaining five species, *Carinoma tremaphoros*, *Lineus socialis*, *Micrura leidyi*, *Cerebratulus lacteus*, and *Amphiporus ochraceus* are known only from the Atlantic and Gulf coasts.

Paranemertes biocellata and *Cerebratulus texanus* have been found only on the northern Gulf coast and may possibly represent endemic species.

Of the seven species herein recorded from southern Florida, only two are known to occur both on the northern Gulf coast and in southern Florida, while *Lineus ater* and *Cerebratulus leucopsis* have been previously reported from Puerto Rico and Curaçao. *Cerebratulus fuscus* occurs also in northern Europe and South Africa, while *Drepanophorus crassus* has an almost world-wide distribution. *Tubulanus floridanus* and *Lineus stigmatus* are at present known only from Biscayne Bay, Fla.

For comparison, it may be noted that 11 of the 53 species found on the North American Atlantic coast are identical with species in European waters, while 12 of the Atlantic coast species occur also on the Pacific coast and 2 of these extend also to Japan. No less than 18 of the species found on the Pacific coast are thought to be identical with well-known European species and others are closely similar.

REFERENCES

- COE, W. R. *Biology of the nemerteans of the Atlantic coast of North America*. Trans. Connecticut Acad. Arts and Sci. **35**: 129-328. 1943.
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ZOOLOGY.—A new species of marine nematode, *Thoracostoma magnificum*, with a note on possible "pigment cell" nuclei of the ocelli. R. W. TIMM, The Catholic University of America. (Communicated by E. G. Reinhard.)

The species of nematode described in this paper was collected from rocks at Point Barrow, Alaska, and sent to Dr. B. G. Chitwood at The Catholic University of America, Department of Biology, for identification. It is here described and figured as a new species of the family Enoplidae, subfamily Leptosomatinae:

Thoracostoma magnificum, n. sp. Fig. 1

Description.—Large worms with an elongate filiform body. Well-developed cephalic helmet (38 μ long); slits in the posterior grooves of the

helmet not joined. Amphids pocketlike, open—within a ring formed by the helmet; 7.5 μ wide in both male and female, one-ninth as wide as the cephalic diameter. Ten cephalic setae in the external circle, four of which are double; six setae in the internal circle. Dorsal tooth very inconspicuous. Dentiform projections in front of the helmet. No excretory pore or subventral excretory gland cell. Ocelli (19 μ in diameter) with red-pigmented "retina" and crystalline lens. Cuticle 12 μ at the head and tail, 8 μ at the mid-body. Nerve ring 30 percent of the esophageal length from the anterior in both sexes.